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Greiner

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(54) **LIGHTING DEVICE WITH POINT-SHAPED LIGHT SOURCES**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 150 days.

This patent is subject to a terminal disclaimer.

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(57) **ABSTRACT**

A lighting device is described which comprises a light emission surface (11) and a plurality of substantially point-shaped light sources (21) such as, for example, LEDs, and which is suitable in particular for backlighting liquid crystal displays such as LCD picture screens, or for use as a planar light radiator. The lighting device is characterized in particular in that an optical waveguide plate (1) is provided with a plurality of cavities (20) for the light sources (21), which cavities are covered with a first reflecting layer (204) on their upper sides (203) facing the light emission surface (11), while the coupling of the light into the optical waveguide plate takes place through side walls (201) of the cavities. A very homogeneous distribution of the luminous intensity on the light emission surface is achieved thereby.

21 Claims, 1 Drawing Sheet

